

WHAT IS CLAIMED AND DESIRED TO BE SECURED BY LETTERS
PATENT OF THE UNITED STATES IS:

- 5 1. A device comprising:
 - a receiver configured to utilize a random access communications protocol, comprising,
 - a channel detector configured to determine an available frequency,
 - 10 a filter circuit, and
 - a controller configured to set the filter circuit to pass the available frequency.
2. The device according to Claim 1, wherein the device
15 utilizes the 802.11 protocol.
3. The device according to Claim 1, wherein the filter circuit includes at least one passband filter that includes the available frequency.
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4. The device according to Claim 3, wherein the passband filter comprises a filter that passes a band of 802.11 regulated frequencies.

5. The device according to Claim 1, wherein the filter circuit comprises a filter module detachably coupled to the receiver.

5 6. The device of Claim 1, wherein the controller is configured to select a RF filter having the available frequency from a plurality of RF filters.

7. The device of Claim 1, wherein the filter circuit 10 comprises a plurality of RF filters each having a different passband.

8. The device of Claim 1, wherein the filter circuit comprises at least two RF filters each passing a different 15 frequency.

9. The device of Claim 1, wherein the filter circuit is 20 configurable to provide a plurality of frequency filters each having a range respectively defined by one of a plurality of frequency channels.

10. The device of Claim 9, wherein the filter circuit is selectively configurable between the plurality of frequency channels.

11. The device according to Claim 1, further comprising a transmitter, wherein the device is configured for simultaneous transmission and reception.

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12. The device according to Claim 1, wherein the random access protocol is one of CSMA and DCF.

13. A radio frequency (RF) wireless network, comprising:
10 at least two RF transceiver circuits configured to utilize a random access communications protocol;
each of the at least two RF transceiver circuits being configured to select between a plurality of frequency channels;
and
15 a processor configured to determine different frequency channels from the plurality of frequency channels for each of the at least two RF transceiver circuits.

14. The wireless network of Claim 13, wherein each of the
20 at least two RF transceiver circuits comprise a receiver circuit selectable between the plurality of frequency channels.

15. The wireless network of Claim 14, wherein at least one of the receiver circuits comprises at least two filter circuits

each having different frequency passbands relative to one another and each selectively coupleable to one of the RF transceiver circuits.

5 16. The wireless network of Claim 14, wherein at least one of the receiver circuits comprises a plurality of filter circuits, wherein each filter circuit has a passband corresponding to a respective one of the plurality of frequency channels.

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17. The wireless network of Claim 16, wherein the random access communications protocol is one of CSMA and DCF.

18. The wireless network of Claim 13, wherein the
15 plurality of frequency channels are grouped into a plurality of adjacent frequency channels.

19. The wireless network of Claim 18, wherein one of the
at least two RF transceiver circuits is configured to pass one
20 signal corresponding to one frequency channel and another of the at least two RF transceiver circuits is configured to pass another signal corresponding to another channel.

20. A method for selecting a radio frequency (RF) signal reception frequency range, comprising:

determining available RF frequency ranges from a plurality of RF frequency ranges;

5. configuring a first receiver to receive random access communications over a first of the available RF frequency ranges; and

configuring a second receiver to receive random access communications over a second of the available RF frequency

10 ranges.

21. The method of Claim 20, wherein determining comprises detecting which of the plurality of RF frequency ranges are occupied.

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22. The method of Claim 21, wherein detecting comprises determining if a RF signal is being transmitted or received within at least some of the plurality of RF frequency ranges.

20 23. The method of Claim 20, wherein configuring the first receiver comprises selecting a filter frequency range of the first receiver corresponding to the first RF frequency range.

24. The method of Claim 23, wherein selecting a filter frequency range comprises dynamically choosing a filter from a plurality of filters, wherein the filter includes a frequency passband that corresponds to the first RF frequency range.

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25. The method of Claim 20, wherein configuring the second receiver comprises selecting a filter frequency range of the second receiver corresponding to the second RF frequency range.

10 26. The method of Claim 25, wherein selecting a filter frequency range comprises choosing a filter from a plurality of filters, wherein the filter includes a frequency passband that corresponds to the second RF frequency range.

15 27. The method according to Claim 25, wherein selecting a filter range comprises configuring a filter circuit to have a passband corresponding to the second RF frequency range.

20 28. The method according to Claim 20, wherein the random access communications comprise at least one of CSMA and DCF.

29. The method according to Claim 22, further comprising the step of configuring at least one of the receivers to receive Orthogonal Frequency Division Multiplexing (OFDM) signals.

30. A method of operation of a communication device, comprising the steps of:

determining at least one available frequency sub-band;

5 configuring the communication device to use one of the available frequency sub-bands; and

configuring an add-on filter to have a passband approximately equal to the one of the available frequency sub-bands.

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31. The method of Claim 30, wherein:

the communication device comprises a radio card in an RF system having a number of radio cards not greater than a number of frequency sub-bands that may be available.

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32. The method of Claim 30, wherein:

the add-on filter comprises,

a plurality of filters each passing at least one of the frequency sub-bands,

20 a switch configured couple a selected one of the plurality of filters to an RF path of the communication device.

33. The method of Claim 32, wherein the available frequency sub-bands includes at least one wireless network frequency.

5 34. The method according to Claim 30, wherein the communication device is configured to utilize a random access protocol.

10 35. The method according to Claim 34, wherein the random access protocol comprises one of CSMA and DCF.

15 36. An add-on filter, comprising:
an RF input and an RF output; and
an RF filter mechanism coupled to each of the RF input and
RF output and selectively configurable to any one of at least two
passbands.

20 37. The add-on filter according to Claim 36, wherein said RF input is a radio card connector.

38. The add-on filter according to Claim 36, wherein the RF output is an antenna connector.

39. The add-on filter according to Claim 36, wherein the RF output is coupled to an antenna.

40. The add-on filter according to Claim 36, wherein:

- 5 the RF filter mechanism comprises,
 - a plurality of filters each passing at least one of the at least two passbands,
 - an input switch configured to couple an RF path of the RF input to a selected one of the filters, and
 - 10 an output switch configured to couple an RF path of the RF output to the selected filter.

41. The add-on filter according to Claim 36, wherein the filter is for attaching to a radio using a random access communications protocol.

42. The add-on filter according to Claim 41, wherein the random access communications protocol comprises one of CSMA and DCF.